Abstract

A virtual-tight-wire system is provided for determining a centerline in a large rotary machine **(10)**. The virtual-tight-wire system includes a columnar light source **(30)** that is positioned at one end of the rotary machine **(10)**. A columnar beam of light **(32)** is emitted from the light source **(30)** toward light receivers **(26)** in a first and second centering tool **(24)**. The beam of light **(32)** is adjusted to impact the center of the light receivers **(26)**. Once the beam **(32)** has been aligned, the beam acts as a virtual tight-wire for identifying a centerline of the rotary machine **(10)**.